

Model 263

Very Low Differential Pressure Transducer for OEM Applications

Air or Non-Conducting Gas



Setra Systems Model 263 pressure transducers sense differential or gauge (static) pressures and convert this pressure difference to a proportional electrical output. The 263 is offered with a high level 5 VDC output.

The 263 Series very low pressure transducers are available in various air pressure ranges. Static accuracy is $\pm 1\%$ full scale in normal ambient temperature environments. The units are temperature compensated to 0.033% FS/ $^{\circ}$ F thermal error over the temperature range of $+20^{\circ}$ F to 150° F.

The Model 263 utilizes an improved all stainless steel micro-tig welded sensor. The tensioned stainless steel diaphragm and insulated stainless steel electrode, positioned close to the diaphragm, form a variable capacitor. Positive pressure moves the diaphragm toward the electrode, increasing the capacitance. A decrease in pressure moves the diaphragm away from the electrode, decreasing the capacitance. The change in capacitance is detected and converted to a linear DC electrical signal by Setra's unique electronic circuit.

The tensioned sensor also allows up to 5 PSI overpressure (in either direction) with no damage to the unit. In addition, the parts that make up the sensor have thermally matched coefficients, which promote improved temperature performance and excellent long term stability. Also available in circuit board mount version.

The Model 263 is intended for high volume OEM applications. Consult a Setra applications engineer to discuss specific details.

Performance Data

| | |
|---|--------------------------|
| Accuracy RSS* (at constant temp) | $\pm 1.0\%$ FS |
| <u>Thermal Effects</u> | |
| Compensated Range $^{\circ}$ F($^{\circ}$ C) | 0 to +150 (-18 to +65) |
| ZeroShift %FS/ $^{\circ}$ F($^{\circ}$ C) | 0.033% (0.06%) |
| Span Shift %FS/ $^{\circ}$ F($^{\circ}$ C) | 0.033% (0.06%) |
| Burst Pressure | 15 PSI |
| Proof Pressure | 5 PSI (either direction) |
| Long Term Stability | 0.5%FS/1 Year |

*RSS of Non-Linearity, Non-Repeatability and Hysteresis

Environmental Data

| | |
|---------------------------------------|--|
| <u>Temperature</u> | |
| Operating $^{\circ}$ F($^{\circ}$ C) | 0 to +150 (-18 to +65) |
| Storage $^{\circ}$ F($^{\circ}$ C) | -40 to +185 (-40 to +85) |
| <u>Vibration</u> | |
| | 10G Mil Std. 202, Method 213B, Cond.C |
| <u>Shock</u> | |
| | 100G Mil Std. 202, Method 204 Cond.D |

Physical Description

| | |
|-----------------------|--------------------------------|
| Case | UL94V-0 Glass Filled Polyester |
| Electrical Connection | See Ordering Information |
| Pressure Fittings | 1/8" and 3/16" Diameter |
| Weight | 3 ounces |

Pressure Media

Dry Air

Applications

- Heating, Ventilating and Air Conditioning (HVAC)
- Energy Management Systems
- Variable Air Volume and Fan Control (VAV)
- Environmental Pollution Control
- Medical Instrumentation

Benefits

- Low Cost
- Compact Size
- 5 PSI Proof Pressure on All Ranges
- High Level 5 VDC Output
- Fully Protected Against Reverse Wiring
- Internal Regulation Permits Use with Unregulated DC Power Supplies
- 1% Accuracy Improves Variable Air Volume System Performance
- RoHS & CE Compliant

When it comes to a product to rely on, choose the Model 263. When it comes to a company to trust, choose SETRA.

ISO-9001 Certified

Performance Data

| | |
|----------------------------------|--------------------------|
| Accuracy RSS* (at constant temp) | ±1.0% FS |
| Thermal Effects | |
| Compensated Range °F(°C) | 0 to +150 (-18 to +65) |
| ZeroShift %FS/°F(°C) | 0.033% (0.06%) |
| Span Shift %FS/°F(°C) | 0.033% (0.06%) |
| Burst Pressure | 15 PSI |
| Proof Pressure | 5 PSI (either direction) |
| Long Term Stability | 0.5%/Yr |

*RSS of Non-Linearity, Non-Repeatability and Hysteresis

Model 263 Specifications

Environmental Data

| | |
|------------------|---|
| Temperature | |
| Operating °F(°C) | 0 to +150 (-18 to +65) |
| Storage °F(°C) | -40 to +185 (-40 to +85) |
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| Shock | 100G Mil Std.202, Method 204 Cond.D |

Physical Description

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| Case | UL94V-0 Glass Filled Polyester |
| Electrical Connection | See ordering information |
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| Weight | 3 ounces |

Electrical Data (Voltage)

| | |
|---------------------|------------------------------------|
| Circuit | 3-Wire (Com, Out, Exc) |
| | Fully protected against miswiring. |
| Excitation | See ordering information |
| Output* | See ordering information |
| Output Impedance | 10 Ohms |
| Current Consumption | 5 mA |

*Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.

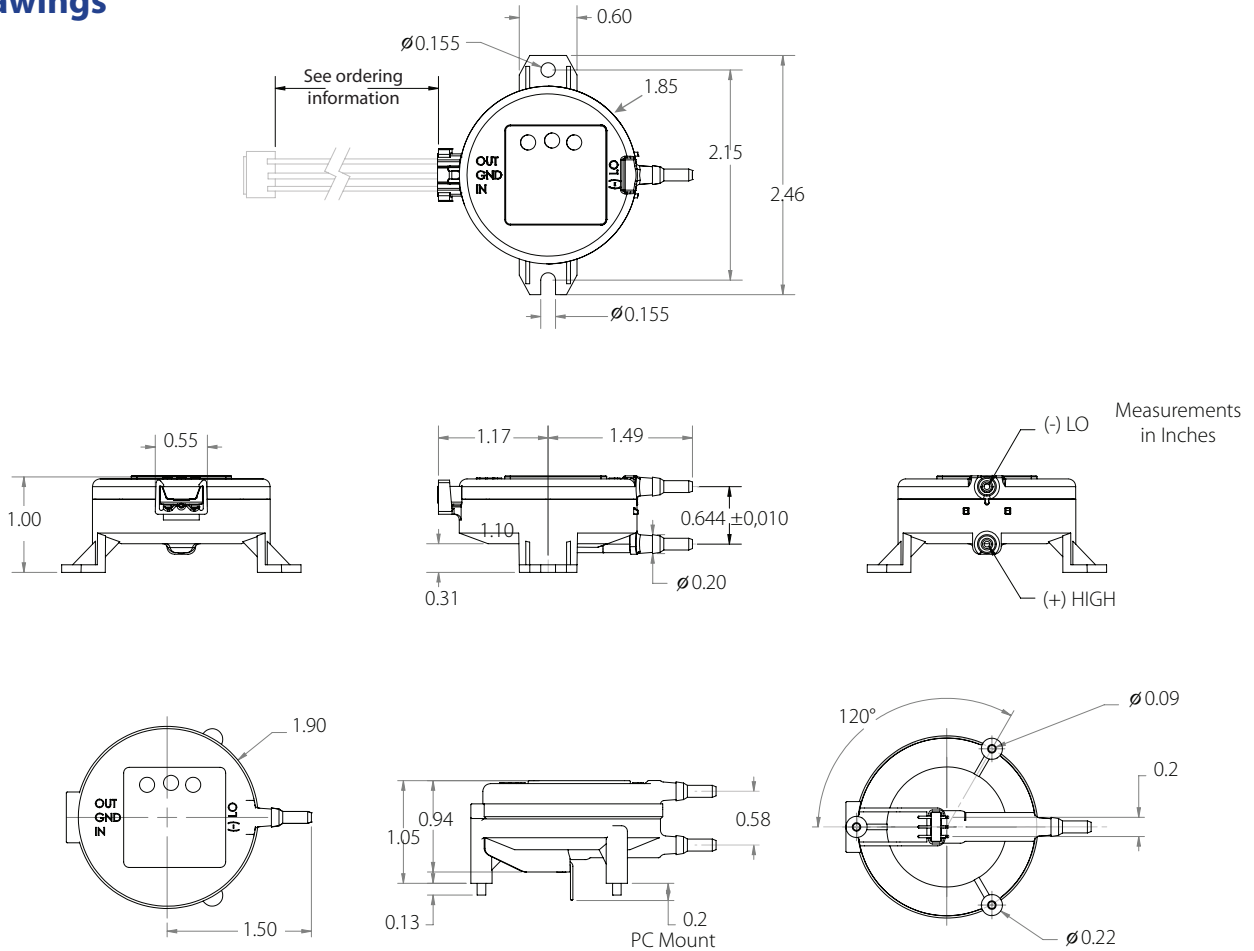
**Zero output factory set to within ±40 mV.

**Span (Full Scale) output factory set to within ±40 mV.

Pressure Media

Dry Air

Outline Drawings



ORDERING INFORMATION

Code all blocks in table.

Example: Part No. 2631001WD4503C for a 263 Transducer 0 to 1" WC Range, 0.5 to 4.5 VDC Output, 3" Cable Lead Electrical Termination and ±1% Accuracy.

| | | | | | | | | | | | | | | |
|--|---|--|-------------------|---|--|--|--|--|--|--|--|--|---|--|
| <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">2</td> <td style="padding: 2px 5px;">6</td> <td style="padding: 2px 5px;">3</td> <td style="padding: 2px 5px;">G</td> </tr> </table> | 2 | 6 | 3 | G | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> | | | | | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> | | | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> </tr> </table> | |
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| | | | | | | | | | | | | | | |
| Model | Ranges | Output/Elec. Termination | Accuracy | | | | | | | | | | | |
| 263G = 263 | Differential | Standard | Standard | | | | | | | | | | | |
| | 001WD = 0 to 1.0" WC 1R5WD = 0 to 1.5" WC 002WD = 0 to 2.0" WC 005WD = 0 to 5.0" WC 025LD = 0 to 25 Pa | 55L1 = 0.5 to 4.5 VDC (Excitation 14.5 to 17.0 VDC) - 8" Pigtail 85L2 = 0.5 to 4.5 VDC (Excitation 4.8 to 8.1 VDC) - 4" Pigtail w/AMP 2-179694-3* 4GL3 = 0.25 to 4 VDC (Excitation 4.8 to 8.1 VDC) - 3" Pigtail 45L4 = 0.5 to 4.5 VDC (Excitation 4.8 to 8.1 VDC) - 3" Pigtail w/AMP 2-179694-3 45L5 = 0.5 to 4.5 VDC (Excitation 4.8 to 8.1 VDC) - 4" Pigtail w/AMP 3-640441-3 8GL6 = 0.25 to 4 VDC (Excitation 14.5 to 17.0 VDC) - 12" Pigtail w/AMP 3-640441-3* 45C1 = 0.5 to 4.5 VDC (Excitation 4.8 to 8.1 VDC) - PC Mount | C = ±1% FS | | | | | | | | | | | |
| <p>Please contact factory for versions not shown.</p> <p>*Ratiometric output</p> | | | | | | | | | | | | | | |

While we provide application assistance on all Setra products both personally and through our literature, it is the customer's responsibility to determine the suitability of the product in the application.